

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

OLLIE GREENE, Individually as the §
Surviving Parent of WYNDELL GREENE, §
SR., et al., §
Plaintiffs, §
vs. §
TOYOTA MOTOR CORPORATION §
et al., §
Defendants. §

CASE NO.: 3:11-CV-00207-N

JURY TRIAL DEMANDED

**DEFENDANT VOLVO GROUP NORTH AMERICA, LLC'S RESPONSE
AND SUPPORTING BRIEF TO PLAINTIFFS' MOTION TO EXCLUDE
REPORT AND TESTIMONY OF STEPHEN WERNER, PH.D.**

Respectfully submitted,

HOWRY BREEN & HERMAN, LLP

Randy Harry

Randy Howry
State Bar No. 10121690
rhowry@howrybreen.com
John E. Carlson
State Bar No. 00790426
jcarlson@howrybreen.com
1900 Pearl Street
Austin, Texas 78705-5408
(512) 474-7300
(512) 474-8557 FAX

**ATTORNEYS FOR DEFENDANT VOLVO
GROUP NORTH AMERICA, LLC**

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**DEFENDANT VOLVO GROUP NORTH AMERICA, LLC'S RESPONSE
AND SUPPORTING BRIEF TO PLAINTIFFS' MOTION TO EXCLUDE
REPORT AND TESTIMONY OF STEPHEN WERNER, PH.D.**

Defendant VOLVO GROUP NORTH AMERICA, LLC (“VGNA”) files this response/brief to Plaintiffs’ Motion to Exclude Report and Testimony of Stephen Werner (Docket #489), respectfully showing:

I. INTRODUCTION

VGNA has retained and designated Dr. Stephen Werner to testify regarding the plaintiffs’ “energy absorption capabilities” and “crash compatibility” theories of defect regarding the Volvo tractor. He also has opinions regarding the plaintiffs’ never-pleaded and belatedly (November 20, 2013) disclosed criticisms of the tractor’s drum brakes.

Dr. Werner has masters and doctoral degrees in mechanical engineering, and has over 27 years of professional experience investigating motor vehicle crashes and crashworthiness. Unlike the plaintiffs’ liability experts, Dr. Werner has robust specific experience in matters pertaining to heavy trucks and their design and crash performance. He is well-qualified to offer the opinions he is offering here.

Dr. Werner’s opinions also satisfy the reliability and relevance requirements of FRE 702 and *Daubert*. Whereas the plaintiffs’ experts have offered no opinions regarding the Volvo tractor specific to the facts of this case or crash (and no specific alternative designs), Dr. Werner’s opinions – including but not limited to his opinion that no override of the Greenes’ 4Runner by the Volvo tractor occurred and thus a frontal underride protection device (“FUPD”) would not have made a difference – are based on the facts, data and evidence of this case using generally accepted methods, principles and techniques, and some universally-recognized principles of math and physics.

Plaintiffs’ motion to exclude Dr. Werner’s report and testimony should be denied.

II. BACKGROUND

A. The Collision

This case arises from a multiple-vehicle collision on I-20 near Terrell, Texas, on May 28, 2010. The Greene family – Wyndell Sr., LaKeysha and their two young children, Wesleigh and Wyndell II – were riding in a Toyota 4Runner that had slowed or stopped because the traffic in front of them had stopped. The Greenes' 4Runner was struck from behind by a tractor-trailer that was traveling at highway speed. The 4Runner was first pushed into a Toyota Corolla, and then collided with the rear of another tractor-trailer. Five-year-old Wesleigh and two-year old Wyndell II died in the collision. LaKeysha was ejected from the passenger seat and died in the collision as well. Wyndell Sr., who was driving, suffered burns and other injuries. He died about three months later.

B. The Parties

The plaintiffs in this case are two relatives of the Greene family (Wyndell Sr.'s mother, Ollie Greene, and LaKeysha's mother, Marilyn Burdette Hardeman) and the administrator of Wyndell Sr.'s estate (Wyndell Sr.'s brother William Greene). Each of these three plaintiffs asserted a variety of claims and causes of action – primarily product liability claims – against five defendants in connection with the deaths of the members of the Greene family. These five defendants are: (1) Toyota, which made the 4Runner; (2) Volvo (VGNA), which made the tractor that struck the Greene vehicle; (3) Strick, which made the trailer that the Greene vehicle struck; (4) Dolphin, the owner of the trailer that the Greene vehicle struck; and (5) Fayard, the operator of the tractor-trailer that the Greene vehicle struck.

C. The Plaintiffs' Allegations Regarding the Volvo Tractor

1. What Has Been Pledged.

The live pleadings filed on July 23, 2012 allege three theories of “design, manufacturing and/or marketing defects” in the Volvo tractor: (1) “absent or defective collision warning system”; (2) “ineffective energy-absorption capabilities”; and (3) “the Tractor was defectively designed because it was incompatible, in a crash, with other vehicles on the road...”. PLAINTIFFS’ SECOND AM. COMPL. (Docket #113) at ¶58. That is the extent of the detail in their pleadings vis-à-vis any alleged defects in the Volvo tractor.

2. What Has Not Been Alleged.

Plaintiffs have not (and have never) pleaded or proposed any specific proposed alternative design for any alleged defect in the tractor. They have never pleaded any allegations of defect regarding the Volvo tractor’s brakes or braking system.¹ They have never alleged any defect regarding “adaptive cruise control” or any “collision avoidance system.” Also, no survival causes or claims have been made on behalf of the estates of LaKeysha Greene or the Greene children – by a court-appointed personal representative of those estates or otherwise.

D. Plaintiffs’ Designation of Keith Friedman and Rhoads Stephenson; the Sketchy “Preliminary” Friedman Reports.

Plaintiffs filed their notice of service of expert disclosures on November 20, 2013 – identifying “Keith Friedman and Dr. R Rhoades Stephenson, Friedman Research Corporation” as testifying experts. (Docket #244) The notice did not indicate what these or the other experts listed would testify about. On the same day, they served copies of their experts’ reports – including one entitled “Greene vs. Volvo NA, et al. – Preliminary Crashworthiness Report” that

¹ See generally Plaintiffs’ Original Complaint (Docket #1), First Amended Complaint (Docket #26) and Second Amended Complaint (Docket #113).

was dated November 14, 2013. *See* Friedman Report, p. 1 (APP0044) The report was jointly signed by both Friedman and Stephenson. *See* Friedman Report, p. 35 (APP0078) It does not state who did what work, who reviewed or considered what materials, who was sponsoring which opinions, etc. The “Discussion” section of the report contains subsections about “braking,” “compatibility” and “radar”; there is no “energy-absorption” section.² *See* Friedman Report, pp. 18-35 (APP0061-78)

The “opinions” expressed in the Friedman report are really nothing more than generic or conclusory statements like “The front end of the Volvo tractor **could have been** equipped with an energy absorbing front end to provide compatibility with other vehicles and absorb a significant portion of the crash energy,” Friedman Report, p. 24 (APP0067) (emphasis added), and “Opportunities to apply static or deployable systems were **possible.**” *Id.* (emphasis added). No specific alternative designs are provided; no test results or analyses are discussed; and there are no opinions specific to the facts of this case or crash. *See* Friedman Report, pp. 18-35 (APP0061-78) There is no opinion that any aspect of subject tractor was unreasonably dangerous, nor are there any risk-utility analyses. *Id.* They did not disclose, produce or provide any analyses, models (including “finite element” modeling), simulations, calculations, data or any other file materials from either Friedman or Stephenson until January 15, 2014 – midway through the first day of Friedman’s two-day deposition on January 15, 2014 (three days before Stephenson was deposed). Carlson Decl. at ¶2 (APP0002)

² Plaintiffs served three other “Friedman reports” at the same time: a “Greene vs. Strick, et al. – Preliminary Crashworthiness Report” regarding Strick; a “Greene vs. Fayard, Dolphin et al. – Preliminary Crashworthiness Report” regarding Fayard and Dolphin; and a “Greene vs. Toyota – Preliminary Crashworthiness and Fireworthiness Report” regarding the Toyota defendants. These reports were also all jointly signed by Friedman and Stephenson. As with the “Volvo report,” none say who did what work or was offering which opinions.

It became clear in the course of the Friedman and Stephenson depositions that the plaintiffs are hoping to use Friedman as their jack-of-all-trades liability expert, and that Stephenson – a fire investigator – was nothing more than an editor of the Friedman “Volvo report.” *See* VGNA’s Brief in Support of its Motion to Exclude Stephenson (Docket #461) at pp. 8-11.

None of the “preliminary” Friedman reports have ever been supplemented – either before or after the depositions were taken in January. Carlson Decl. at ¶2 (APP0002)

E. VGNA’s Designation of Stephen Werner; Werner’s Report

VGNA designated/disclosed Stephen Werner, who has masters and doctorate degrees in mechanical engineering from the University of California-Berkeley, on December 20, 2013, along with a copy of Dr. Werner’s written report, resumé, and list of recent testimony. *See* Werner Report (APP0012-23); *see* Werner Resumé (APP0024-29)

In his report, Dr. Werner repeatedly noted the absence of any alternative design or testing from the Friedman/Stephenson report that was even remotely specific enough to evaluate or analyze, such as:

- “However, all of the design changes proposed by Friedman and Stephenson are expressed only in general terms, with no specific reference to how they would be configured and implemented in the subject tractor.” Werner Report, p.3 (APP0015)
- “Friedman and Stephenson failed to identify specific alternative designs for any of their opinions regarding the VGNA (Volvo) tractor.” *Id.*
- “They opine that either a rigid or energy-absorbing [FUPD] design could have been utilized, but present no example of any design or any analysis of how it would function or have benefitted the Greenes in this collision.” Werner Report, p. 7 (APP0019)
- “They provide no analysis of how such [an “airbag collision mitigation system”] would need to perform in the subject crash, no examples of such

systems from any vehicle industry source, or any proposed designs.”
Werner Report, p. 9 (APP0021)

Dr. Werner also explained what an “override” is in the context of motor vehicle collisions; why Friedman’s threadbare conclusion that an override occurred in this crash is incorrect; why Friedman’s conclusion is not supported by the actual evidence in this case; and why it is inconsistent with Friedman’s *own analysis* of structural damage to the 4Runner’s frame contained in another report directed at the Toyota defendants. *See* Werner Report, pp. 3-7 (APP0015-19)

And, he explained the bases and scientific methodology – including (unlike Friedman) *actual physical analysis and mathematics* – for his conclusions that (i) a frontal underride protection device (FUPD) on the subject tractor would not have impacted the outcome of this crash given its enormous energy; and (ii) the use of disc brakes instead of drum brakes on the tractor also would have not materially affected the outcome of this crash. *See* Werner Report, pp. 3-7 & 9-10 (APP0015-19 & APP0021-22)

Dr. Werner was deposed on such matters February 12, 2014; VGNA produced Dr. Werner’s entire file for this case to plaintiffs’ counsel prior to the deposition. Carlson Decl. at ¶3 (APP0171)

III. ARGUMENT AND AUTHORITIES

A. Dr. Werner is qualified to offer the opinions and conclusions contained in his report.

Plaintiffs have moved to exclude Dr. Werner’s report and testimony in their entirety on qualifications grounds. That argument is completely nonsense – particularly when Dr. Werner’s qualifications are juxtaposed against Mr. Friedman’s and Dr. Stephenson’s.

The law governing expert qualifications under FRE 702 and *Daubert* is well developed, and VGNA will not dwell on it here. Rule 702 requires that expert be qualified by his or her

knowledge, skill, experience, training and education such that his or her testimony will help the trier of fact. FED. R. EVID. 702; *see Wellogix, Inc. v. Accenture, L.L.P.*, 716 F.3d 867, 881-82 (5th Cir. 1999) (discussing and applying expert qualification law under FRE 702 and *Daubert*).

Dr. Werner has been retained and designated by VGNA to offer testimony regarding the plaintiffs' "crash compatibility" (including any allegation that an override of the 4Runner by the Volvo tractor occurred) and "energy absorption capability" claims. He is also offering testimony regarding Friedman's conclusory assertion that "the Volvo tractor should have had a better braking system" – an opinion that is not relevant to any of the three alleged defects that the plaintiffs have actually pleaded in their complaint(s) in this case.

Dr. Werner is well-qualified in terms of knowledge, skill, experience, training, education and credentials to offer expert testimony in each of these areas.

Dr. Werner has three degrees in engineering, all from the University of California, Berkeley: a bachelor's (1982), a masters (1983), and a Ph.D. (1987). Werner Decl. at ¶5 (APP0006) He is a registered professional mechanical engineer in four states: Alabama, Arizona, Illinois and California. *Id.* He is a long-time member of the Society of Automotive Engineers (SAE), the American Society of Mechanical Engineers (ASME), and the American Society for Testing and Materials (ASTM). *Id.*

He is a Principal Engineer at Exponent. *Id.* at ¶6 (APP0006) He focuses on the analysis of vehicle accidents – including accidents involving medium and heavy vehicles. *Id.* His research includes static and dynamic analysis of wheeled on- and off-road vehicles. *Id.*

Dr. Werner has been investigating transportation crashes for over 27 years, and has analyzed over 2,000 such crashes. *Id.* at ¶7 (APP0006) Hundreds of the collisions he has investigated involved tractor-trailers. *Id.* He has analyzed at least one hundred collisions

wherein some manner of override or underride existed between the colliding vehicles. *Id.* He has personally participated in over 50 full-scale crash tests in his career – including crash tests involving heavy trucks – and has witnessed and studied numerous others. *Id.* at ¶9 (APP0007)

Dr. Werner has authored or co-authored some 20 published papers regarding motor vehicle crashes, crashworthiness and crash compatibility – many specifically addressing heavy trucks. *Id.* at ¶7 (APP0006); *see* List of Publications (APP0026-27) One technical paper he co-authored titled “*Determining Closing Speed in Rear Impact Collisions With Offset and Override*” was published by the SAE in 2001 and established analytical processes to study override collisions. Werner Decl. at ¶7 (APP0006); *see* Paper (APP0030-42)

A significant portion of Dr. Werner’s professional career has been devoted to the specific study of heavy truck collisions and crashworthiness. Werner Decl. at ¶8 (APP0006) He was one of the principal investigators in the Heavy Truck Crashworthiness Project sponsored by the SAE, the National Highway Traffic Safety Administration (NHTSA), and most of the heavy truck manufacturers. *Id.* The purpose of that project was to study heavy truck collisions and develop crash test procedures specifically applicable to heavy truck tractors. *Id.* One such test procedure they developed addressed underride collisions between a tractor and the trailer of another tractor-trailer (the most common collision mode for heavy trucks involving fatality to the truck occupants). *Id.*

Dr. Werner has testified in court as an expert witness over 40 times during his professional career, and have given over 350 oral depositions. *Id.* at ¶10 (APP0007) To his knowledge, his testimony has never been excluded or limited by a court through a *Daubert* challenge. *Id.*

B. Dr. Werner's opinions and conclusions satisfy the reliability and relevance requirements of FRE 702 and *Daubert*.

If an expert is qualified, his or her opinions must satisfy the reliability and relevance requirements of FRE 702 and *Daubert*. *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 591 (1993). Dr. Werner's clearly do.

1. Dr. Werner's report and testimony are reliable because he performed case-specific analyses employing widely-accepted principles and methods and basic mathematical equations.

FRE 702 requires that: (1) the expert's testimony must be based on sufficient facts or data; (2) the expert's testimony must be the product of reliable principles and methods; and (3) the expert applied these principles and methods reliability to the facts of the case. *U.S. v. Conn*, 297 F.3d 548, 555 (7th Cir. 2002). Under *Daubert* and its progeny, the "reliability" analysis entails evaluating a number of potential factors: (1) whether the theory or technique underlying the expert's testimony can be or has been tested; (2) the technique's known or potential rate of error; (3) whether the theory or technique has been subjected to peer review and publication; (4) whether the theory or technique has gained general acceptance in the relevant scientific community; (5) whether the expert's testimony is based on sufficient facts or data; and (6) whether the opinion was developed expressly for the purpose of testifying or as a result of independent research. *Daubert*, 509 U.S. at 593-94; *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999); *Pipitone v. Biomatrix, Inc.*, 288 F.3d 239, 244 (5th Cir. 2002). These factors are neither exhaustive nor definitive, and are not each applicable in every case or instance. *U.S. v. Simmons*, 470 F.3d 1115, 1123 (5th Cir. 2006) (discussing and applying *Daubert* factors); *Black v. Toys-R-Us*, 2010 U.S. Dist. LEXIS 119460 *9 (S.D. Tex. Nov. 10, 2010) (same).

Dr. Werner has offered opinions in three basic subject areas: (1) whether the Volvo tractor overrode the 4Runner and, accordingly, whether a frontal underride protection device

(FUPD) or system (FUPS) on the tractor would have made a difference in this crash; (2) whether any other alleged energy absorption and crash compatibility designs or devices would have made a difference in this case and whether the vehicles were defective in the absence of any such designs or devices rendered the vehicle defective; and (3) Friedman's belated and unpleaded assertion that "the Volvo tractor should have had a better braking system" in the form of disc brakes instead of drum brakes. These subjects are addressed in order below.

a) Override/Underride and "FUP" Devices/Systems

As his expert report and deposition testimony reflects, one of the issues that Dr. Werner has analyzed in this case was whether the Volvo tractor overrode the Greenes' 4Runner during the collision(s) at issue in this lawsuit. *See* Werner Report, pp. 3-7 (APP0015-19); *see* Werner Depo Tr. at 38-44 (APP0135-APP0136) On pages 19 (in paragraph 14) and 21 (in paragraph 17) of the Friedman report regarding VGNA and the subject Volvo tractor, Friedman states (in identical paragraphs) that "the Volvo truck frame overrode the frame of the Toyota 4Runner ...". Friedman Report, pp. 19 & 21 (APP0062 & 64) On pages 20 & 21 of the Friedman report (in paragraphs 15 & 16), he points to a difference in height between the Volvo tractor's frame rails and the frame of the 4Runner as a rationale for his opinion. *Id.* at pp. 20-21 (APP0063-64) He then suggests on page 24 (in paragraph 14) that a Frontal Underride Protection Device (FUPD) or System (FUPS) of unspecified design, configuration and materials would have made a difference in the outcome of this crash. Friedman Report, p. 24 (APP0067) The report does not indicate that Friedman (or Stephenson) performed any tests or analyses of any particular FUPD/FUPS design. Even up to and through their depositions – they were deposed in January after Dr. Werner had prepared and submitted his report – Friedman and Stephenson still had not presented or disclosed any specific FUPD or FUPS design for which they performed any tests or

analyses at all (whether specific to the facts of this case or even generically). *See* Werner Decl. at ¶11 (APP0007)

Dr. Werner has concluded that a FUPD or FUPS on the Volvo tractor would not have mattered or made any difference in this crash because Friedman's opinion (or assumption) that an override of the 4Runner by the Volvo tractor occurred in the crash is simply incorrect. *See* Werner Report, p. 4 (APP0016); Werner Decl. at ¶12 (APP0007-8) The factual bases for this conclusion (which are contained in, and displayed via, photos of the 4Runner and Volvo tractor in his report) include, among other things:

- (1) the absence of any physical evidence of an override (Werner Report, p. 4 (APP0016));
- (2) physical crush, deformation and displacement evidence from the 4Runner that clearly shows that, in fact, no override occurred, including:
 - a) forward displacement and crushing of the rear bumper (Werner Report, p. 4 & Figure 1 (APP0016));
 - b) crushing forward of the rear frame section over the rear axle (Werner Report, p. 4 & Figures 2-5 (APP0016-18));
 - c) rear roof section extending further rearward than the frame (Werner Report, p. 4 (APP0016));
- (3) the existence of a substantial structure on the front end of the Volvo tractor between the frame rails that extends below the frame rail (a structural feature Friedman failed to take account of) which directly engaged the bumper of the 4Runner (Werner Report, p. 7 & Figure 7 (APP0019 & 20)); and
- (4) Friedman/Stephenson's own diagram of the frame deformation to the 4Runner that shows no override occurred. (Werner Report, p. 7 & Figure 6 (APP0019))

See Werner Decl. at ¶12 (APP0004-11)

Whether or not an override/underride occurs between two vehicles in a collision is a function of their geometries and structural characteristics and is defined very simply by the nature of their damage (crush, deformation and displacement); the override/underride question is defined by the damage to the vehicles and not their relative frame heights (as was done by

Friedman). Werner Decl. at ¶13 (APP0008) The principles and methods Dr. Werner used in this case to assess whether an override/underride occurred – and thus whether a FUPD or FUPS would or could have made any difference – are identical to those used by NHSTA in connection with its comprehensive motor vehicle crash catalog/databases. *Id.*; *see* Werner Depo Tr. at 38-42 (APP0135-APP0136)

NHTSA maintains several databases of crash characteristics and defines override/underride so that its occurrence can be captured in the federal crash data. *Id.* One such database is the Fatality Analysis Reporting System (FARS), which is a nationwide census of every fatal motor vehicle crash in the United States and which provides annual data regarding the vehicles and occupants involved in such crashes. Werner Decl. at ¶13 (APP0008) Among the details cataloged by NHTSA for each crash are descriptions of the damage to each of the involved vehicles. *Id.* Descriptors for all of the crash characteristics are standardized within the databases. *Id.* The Crashworthiness Data System Coding Manual defines the manner in which all of the aspects of each crash description are coded into the databases. *Id.* The Coding Manual defines override/underride as “those instances where there is an uneven damage pattern caused by uneven amounts of crush at different vertical levels of the front and/or rear planes of the vehicle.” *See id.* & Coding Manual Excerpt (APP0122) As an example, the Coding Manual then depicts a collision between a pickup truck and a sedan in an override/underride situation wherein the trunk of the sedan is crushed but the rear bumper is relatively undisturbed. *Id.*; *see* Coding Manual Figure A (APP0122) The recognition of override/underride by someone with appropriate knowledge, training and experience, such as Dr. Werner, does not require anything more sophisticated than observation of the vehicle damage and then application of the

straightforward definition established by NHTSA to the physical damage observed. Werner Decl. at ¶13 (APP0008)

The principles and methods Dr. Werner applied in reaching his conclusion that no override occurred are simple, straightforward and conventional. Werner Decl. at ¶¶13-14 (APP0008-9) After reviewing the DPS crash report and other accident-related materials that were available to him, Dr. Werner personally inspected both the 4Runner and the Volvo tractor for signs of crush, deformation and displacement to the vehicles and their components (his inspection included visual observations, multiple measurements, and photographs). Werner Decl. at ¶14 (APP0008-9) As discussed above and in Dr. Werner's report and at his deposition, there was no physical or other evidence of any override and, to the contrary, the crush/deformation/displacement evidence was completely consistent with a direct engagement of the frames/structures of the two vehicles. *Id.* The principles and methodology Dr. Werner employed in this case are identical to those employed by researchers at NHTSA in their analyses of literally hundreds of thousands of crashes for possible overrides/underruns, and are widely, if not universally, accepted within the motor vehicle accident reconstruction and crash analysis community. *Id.*

Dr. Werner's opinions clearly satisfy the *Daubert* "reliability" factors. They are based on and rooted in definitions and methods promulgated and published by NHTSA. They are widely-used (used to analyze literally hundreds of thousands of fatality accidents) and generally accepted. To the extent that a "rate of error" analysis applies, they have a low rate of error because the inquiry leads to what is essentially a "yes" or "no" result. *See* Werner Decl. at ¶15 (APP0009) His opinions are based on his inspection and analysis of the specific vehicles at issue here and the facts and data of this case. And, his methodology is not case-specific: he has used

the same technique and methods he used here to investigate many other accidents in which a frontal override/underride was alleged to have occurred. *Id.*

b) Other Alleged (but Unspecified) Energy Absorption Designs

Dr. Werner has also analyzed the issue of “energy absorption” capabilities raised by the plaintiffs in their complaint. Werner Decl. at ¶16 (APP0009) The concept is briefly discussed in places in the Friedman report, though Friedman has provided no actual alternative “energy absorbing” designs or assessments of any such designs – whether an energy-absorbing FUPD/FUPS or some sort of “airbag” system he mentions once in passing in the report or anything else – that could be specifically evaluated or tested. *Id.* Dr. Werner had literally nothing from Friedman and Stephenson to specifically evaluate or analyze vis-à-vis “energy absorption”: no alternative design or configuration, no materials specifications, and not even a drawing or illustration. Werner Decl. at ¶18 (APP0009-10)

After noting that Friedman and Stephenson have provide no energy-absorbing designs that could actually be tested, Dr. Werner has used elementary principles of physics and math – including kinetic energy and the law of energy conservation – to explain how even a theoretical energy absorption design from motor vehicle literature of the highest capability would not have been able to absorb sufficient energy to reduce the deformation given the tremendous amount of damage energy (580,000 foot-pounds) involved in the initial tractor-trailer/4Runner impact. Werner Report, pp. 7-8 (APP0019-20) And he uses the same properties of physics and math to explain that even if deformation to the 4Runner was reduced somewhat, the speed change to the 4Runner as a result of the collision would have remained the same – and thus the remainder of the collision sequence would have been unaltered. *Id.*

The concept of “energy absorption” through vehicle deformation is fundamental to accident reconstruction and the study of vehicle crashworthiness. Werner Decl. at ¶17 (APP0009) The topic is discussed in hundreds of accident reconstruction textbooks and published papers spanning decades. Vehicle damage energy distribution has been a foundational component of the majority of the accident reconstruction analyses Dr. Werner has performed over the last 27 years. *Id.* The equations used to calculate energy in a crash – including those Dr. Werner used in his analysis to calculate the amount of energy involved in this collision, such as the 580,000 foot-pounds of damage energy that was dissipated in the initial impact between the Volvo tractor and the 4Runner – are elementary physics equations and are not unique to the study of vehicle collisions (but are included, as Dr. Werner testified in his deposition, in the widely-used Northwestern Accident Reconstruction Handbook and other reconstruction handbooks and literature). *Id.*; *see* Werner Depo Tr. at 54-55 & 74-77 (APP0139 & APP0144) Engineers studying vehicle collisions commonly calculate the energy absorbed by damaging a vehicle and use the same principles and equations that Dr. Werner employed in this case. Werner Decl. at ¶17 (APP0009) Dr. Werner has routinely testified in court offering opinions based on the results of calculations using these very same principles and equations. *Id.*

Dr. Werner’s opinions in this arena again satisfy the FRE 702/*Daubert* reliability analysis.

c) Brakes/Braking Systems

Even though the plaintiffs have never alleged any brake defect in this case, Dr. Werner also addressed that braking issues in his report in light of Friedman’s *ipse dixit* assertion in his report that “the Volvo tractor should have had a better braking system,” *see* Friedman Report, p. 22 at ¶1 (APP0065), followed by his cursory discussion of the use of disc brakes versus drum

brakes on heavy trucks. *See* Werner Decl. at ¶19 (APP0010) As with his other opinions, Friedman did not provide or perform anything specific to the facts of this case regarding brakes or brake systems – whether disc or drum – but instead simply summarized some results of a study that was not performed in connection with this case or this collision and was not shown to involve any substantially similar facts or circumstances. *See* Friedman Report, p. 22 at ¶1 (APP0065)

In Dr. Werner's braking analysis, which is contained on pages 9 & 10 of his report, he noted that the 12% improvement in braking distance attributable to disc brakes, as opposed to drum brakes, that Friedman plucked from the one report was for a tractor only – that is, not anywhere close to the mass of the tractor-trailer combination involved in this collision. Werner Report, pp. 9-10 (APP0021-22); *see* Werner Decl. at ¶20 (APP0010) Dr. Werner then performed some simple braking calculations that added a trailer into the braking equation to show that a drum-brake-equipped tractor-trailer would be able to slow from 65 mph to approximately 44 mph in 150 feet of hard braking, whereas disc brakes on a tractor of that combination would be able to slow down to approximately 43 mph after 150 feet of hard braking – an inconsequential 1 mph difference in a severe crash like this one when a vehicle of this mass is involved and the closing speed at impact is this great. Werner Report, pp. 9 & 11 (APP0021 & 23); *see* Werner Decl. at ¶20 (APP0010)

The calculation of vehicle stopping distance as a function of brake application is fundamental to accident reconstruction and is included in virtually every accident reconstruction text – including the widely-used Northwestern reconstruction handbook discussed above and in Dr. Werner's deposition. Werner Decl. at ¶21 (APP0010); *see* Werner Depo Tr. at 54-55 & 74-77 (APP0139 & APP0144) Every accident reconstruction expert is aware of the process by

which stopping distance is calculated. Werner Decl. at ¶21 (APP0010) To address the Friedman claim regarding improved stopping performance with a different brake system, Dr. Werner simply applied the performance increase (12%) that Friedman proposed to calculate the change in stopping distance once a trailer and its weight/mass is factored in. *Id.* Since the result was a relative comparison – using the same mathematics with or without Friedman’s proposed performance improvement value – and not an absolute calculation, it is readily verifiable and there is little to no error rate in the principles and process Dr. Werner employed. *Id.* It’s simply math. Moreover, since none of the other experts in this matter, including the plaintiffs’ own reconstructionist, Jeff Vick, have opined that the tractor driver, Charles Moody, was even fully applying his brakes or maximizing their capacity prior to the initial impact, Dr. Werner concluded that there is ample basis to conclude that “improving” those brakes would not have mattered. *Id.*

Finally, Dr. Werner’s opinion that the drum brakes, as opposed to disc brakes, on the subject vehicle were not a defective design is rooted in 27 years of accident reconstruction and analysis work and a number of observations, including: the fact that the tractor exceeded the stopping distance requirements of the FMVSS heavy truck braking performance safety standard; the prevalence of drum brakes on tractor-trailer combinations; the absence of any studies or literature that conclude that drum brakes are a defective design; and the conclusion of the investigating DPS troopers in this case that the subject tractor had no pre-collision brake system defects. Werner Report, p. 10 (APP0022); Werner Decl. at ¶22 (APP0010-11)

2. Dr. Werner did not perform case-specific testing or modeling of any alternative design because Friedman and Stephenson have presented ***absolutely nothing*** to examine, evaluate, test or model.

There is no reliability issue regarding Dr. Werner or any alleged failure by him to test or model any alleged alternative design for the simple reason that there was absolutely nothing for him to examine, evaluate, model or test: Friedman and Stephenson provided no actual designs, dimensions, configurations, characteristics, drawings, illustrations or materials specifications relating to any theoretical “energy absorption” (or “compatibility) device or feature – whether an energy-absorbing FUPD/FUPS or an “airbag collision mitigation system” or anything else. Werner Decl. at ¶¶11, 18 & 19 (APP0007, 9 & 10)

Any reliability issue here lies with Friedman/Stephenson and the massive and indeed fatal deficiencies in their report, testimony, and disclosures. These deficiencies are discussed in VGNA’s motions/briefs to exclude the report and testimony of both Friedman and Stephenson, and are incorporated for all purposes herein. *See* VGNA’s Brief in Support of its Motion to Exclude Friedman (Docket #s 463 & 464); VGNA’s Brief in Support of its Motion to Exclude Stephenson (Docket #s 460-61).

It is Friedman and Stephenson – not Werner – whose report and testimony should be excluded.

3. Dr. Werner’s opinions regarding (the absence of) override, energy-absorption and compatibility are clearly relevant.

FRE 702 requires that an expert’s opinion help the trier of fact understand the evidence or determine a fact in issue. FED. R. EVID. 702(a). In other words, the expert’s opinion must be relevant. *Daubert*, 509 U.S. at 591.

Here, there can be no doubt that Dr. Werner’s opinions regarding override, energy-absorption and compatibility are relevant to fact and issues in this case. They specifically address issues that were pleaded in plaintiffs’ complaint and raised in the Friedman/Stephenson report. *See* Plaintiffs’ Second. Am. Complaint (Docket #113) at ¶¶55-64; *see* Friedman Report

(APP0043-118) And, as discussed above, Dr. Werner has performed case-specific analyses in reaching and rendering his opinions.

4. Dr. Werner's opinions regarding "disc-versus-drum" brakes should be irrelevant because there has **never been a pleading** by the plaintiffs to support any such alleged braking defect or inadequacy.

Dr. Werner's opinions and observations regarding the "disc-versus-drum brake" issue *should be* irrelevant since the brake issue should not be a part of this case: (1) there is and never has been any pleading by the plaintiffs alleging that the Volvo tractor's brakes are defective; and (2) Friedman and Stephenson do not even opine that the brakes were defective or unreasonably dangerous (instead baldly only assert that "the Volvo tractor should have had a **better** braking system") *See* Friedman Report, p. 22 (APP0065) (emphasis added). No expert should be allowed to opine about any alleged (but unpleaded) defect or deficiency in the tractor's brakes or braking system; however, Dr. Werner's opinions and observations regarding brakes are relevant unless and until any such testimony or evidence from Friedman and Stephenson is stricken and/or excluded.

C. Dr. Werner is not "interpreting" regulations or offering legal conclusions.

The text at section 2 (pages 5-7) of Plaintiffs' motion to exclude Werner is ostensibly couched in terms of an objection on three grounds: (1) don't allow an expert to provide an "interpretation" of "laws and regulations"; (2) don't permit an expert to state that a design "complied with safety regulations"; and (3) don't let an expert state "opinions" on "ultimate conclusions." *See* Plaintiffs' Motion to Exclude Werner (Docket #489) at pp. 5-7. Plaintiffs then list certain propositions that they seek to exclude, presumably on these three bases. It is difficult to ascertain which of the three objections are being asserted against some of the

propositions insofar as some of the propositions 1 through 6 clearly have nothing to do with regulations or laws. Following this list are three paragraphs that include additional objectionable opinions commingled with citations from cases, almost all of which are from the Seventh Circuit. No cases are cited from the Fifth Circuit. Plaintiffs make the same objections in their motion to exclude VGNA expert Tim Cheek (Docket #493, pp. 5-7), as well as other experts such as their motion to exclude Toyota expert Lee Carr (Docket #478, pp. 13-17).

These objections – if that is what they are – should be overruled first simply on the grounds that they are so convoluted and internally contradictory that VGNA and the Court cannot intelligently respond to each of them on the merits. Rather than attempt to tease out and respond to every potential combination of objections that could be derived from these pages (Motion to Exclude Werner, pp. 5-7, and Motion to Exclude Cheek, pp. 5-7), VGNA believes that statement of the law below demonstrates that these objections are flawed and without merit.

FRE 704(a) makes clear that testimony, whether lay (FRE 701) or expert (FRE 702), in the form of an opinion that “embraces” an “ultimate issue” is not objectionable for that reason alone. If expert testimony is otherwise objectionable – *i.e.*, does not meet *Daubert* or is not helpful to the trier of fact³ – then Rule 704(a) does not compel admission. A witness cannot testify as to “legal conclusions.” *McBroon v. Payne*, 478 Fed. Appx. 196 (5th Cir. 2012). But as long as the legal criteria in the questions properly state the law, then testimony on the “ultimate issue” is not only proper, but desirable. *See* Comment to FRE 704. The comment to Rule 704 illustrates how a question may be structured so as to permit testimony on the “ultimate issue” and not run afoul of the prohibition of testimony on “legal conclusions”: a witness may not be entitled to state flatly that X had the *capacity to make a will*, but the witness would be permitted to state that X had the mental capacity *to know the objects of his bounty*. *See Brazos River Auth.*

³ See the Comment to Rule 704.

v. *GE Ionics, Inc.*, 469 F.3d 416 (5th Cir. 2006) (discussion of this distinction as noted in the comment to Rule 704). The legal criteria for expert opinions in a Texas products case are based on a PJC hornbook charge and are “adequately explored. *See* Comment to FRE 704. Therefore, *Daubert*-compliant and helpful opinions by Werner, Cheek and others that a design was not economically feasible, was not unreasonably dangerous, was not defective in the sense of the instructions given in the Court’s charge are not objectionable “just because” they embrace an ultimate issue.

The assertion that Werner (or Cheek or anyone else) should not be able to state that the Volvo tractor was equipped with brakes that complied with FMVSS 121 (the heavy truck brake performance safety standard) is not only without merit, but misleading. Whether or not the Volvo tractor in question did or did not comply with FMVSS 121 is highly material if the Court allows testimony regarding Friedman’s belated and deficient “disc versus drum brakes” opinion. In the first place, if the tractor did comply with FMVSS 121, as VGNA contends, then VGNA is entitled to an instruction from the Court and/or other relief pursuant to Texas Civil Practices & Remedies Code §82.008. *See Kia Motors Corp. v. Ruiz*, 2014 Tex. App. LEXIS 259 (Tex. March 28, 2014). None of the cases cited by the plaintiffs in their motions involve Texas law or the presumption arising from §82.008.

Even a case cited by the plaintiffs recognized that evidence of compliance with FMVSS is admissible. *See Nemir v. Mitsubishi Motors*, 2006 U.S. Dist. Lexis 8399 (E.D. Mich. 2006).⁴ Plaintiffs also cite *Bammerlin v. Navistar Int'l Transp. Corp.*, 30 F.3d 898 (7th Cir. Ind. 1994) in their motions. *Bammerlin* and other cases hold that a witness – expert or not – cannot state what

⁴ *Nemir* was not cited in the motion to exclude Werner (Docket #489). However, *Nemir* was cited by Plaintiffs in the same boilerplate contention exclude Cheek. (Docket #493, p. 6)

a statute or regulations “means,” thus leaving the jury to fend for itself on what the law is.⁵ What Plaintiffs fail to note is that in *Bammerlin*, the Seventh Circuit held that the trial court should have instructed the jury that the manufacturer, as a matter of law, complied with the relevant FMVSS.⁶ In this case, there is no dispute what the relevant FMVSS means and essentially no dispute that VGNA’s tractor complied with FMVSS 121.⁷ If the Court does not instruct the jury that VGNA has complied with the regulation, then VGNA is entitled to prove that it complied. But unquestionably (again, assuming any brake evidence is even allowed) VGNA is entitled⁸ to have the jury know that the tractor complied with FMVSS 121 – either through evidence or directly from the Court through an instruction.

Plaintiffs string together disjointed quotes from mostly Seventh Circuit cases. On careful reading, these cases are not in the ballpark of this Texas products liability case and mainly involve efforts to admit opinion testimony on “legal conclusions” – opinions about violations of the FLSA⁹; lawyers seeking to testify on easements¹⁰; urban planning¹¹; kickback statutory violations¹²; opinions seeking to explain the meaning of a federal train regulation in a

⁵ *CSX Transp., Inc. v. City of Plymouth*, 92 F. Supp. 2d 643 (E.D. Mich. 2000), cited by Plaintiffs, illustrates the concept that experts cannot state what a regulations “means” (a matter for the court), but that whether a given condition “complied” with the regulation may very well be a fact to be decided by the jury under proper instructions.

⁶ See 30 F.3d at 900-01; quoted also in *Nemir*, 2006 U.S. Dist. Lexis 8399 at *3.

⁷ See Friedman Depo Tr. at 250:1-6 (APP0176)

⁸ See TEX. CIV. PRAC. & REM. CODE §82.008.

⁹ *Dubiel v. Columbia Hosp. (Palm Beaches) L.P.*, 2005 U.S. Dist. LEXIS 45874 (S.D. Fla. Jan. 10, 2005).

¹⁰ *Rounds Inc. v. NLRB*, 674 F.3d 638 (7th Cir. 2012).

¹¹ *Good Shepherd Manor Found., Inc. v. City of Momence*, 323 F.3d 557 (7th Cir. Ill. 2003).

¹² *Klaczak v. Consol. Med. Transp. Inc.*, 2005 U.S. Dist. LEXIS 13607 (N.D. Ill. May 26, 2005).

preemption case¹³; and a detective giving legal conclusions in a federal pornography case.¹⁴ All of these objections to the testimony of Werner and Cheek should be overruled.

IV. CONCLUSION AND PRAYER

For all the reasons set forth herein, Dr. Werner has the qualifications to offer the opinions he has in this cases, and his report, testimony and evidence is otherwise reliable and relevant. Plaintiffs' motion to exclude Dr. Werner's report and testimony should be denied. VGNA prays for all other relief to which it is entitled.

¹³ *CSX Transp., Inc. v. City of Plymouth*, 92 F. Supp. 2d 643 (E.D. Mich. 2000).

¹⁴ *United States v. Noel*, 581 F.3d 490 (7th Cir. Ind. 2009).

Respectfully submitted,

HOWRY BREEN & HERMAN, LLP



Randy Howry
State Bar No. 10121690
rhowry@howrybreen.com
John E. Carlson
State Bar No. 00790426
jcarlson@howrybreen.com
1900 Pearl Street
Austin, Texas 78705-5408
(512) 474-7300
(512) 474-8557 FAX

**ATTORNEYS FOR DEFENDANT VOLVO
GROUP NORTH AMERICA, LLC**

CERTIFICATE OF SERVICE

I certify that on April 7, 2014, a true and correct copy of the above and foregoing was forwarded to all counsel of record in accordance with the Federal Rules of Civil Procedure by electronic service through the court's ECF system in compliance with Federal Rules of Civil Procedure 5(b)(2)(E) and 5(b)(3).



Randy Howry